



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/850,057	05/08/2001	James Aweya	57983.000013	9171

7590 06/09/2004

THOMAS E. ANDERSON
HUNTON & WILLIAMS
1900 K STREET, N.W.
WASHINGTON, DC 20006-1109

EXAMINER

BANANKHAH, MAJID A

ART UNIT	PAPER NUMBER
----------	--------------

2127

DATE MAILED: 06/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

2

Office Action Summary

Application No.

09/850,057

Applicant(s)

AWEYA ET AL.

Examiner

Majid A Banankhah

Art Unit

2127

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 May 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. This office action is in response to application filed on May 08, 2001. Claims 1-16 are considered for examination.

Claim Rejections - 35 USC § 103

2. Following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chiu (U.S. Pat. No. 6,744,767, hereinafter Chiu), in view of Bergamasco (U.S. Pat. No. 6,675,220, hereinafter Bergamasco).

Per claim 1, 7, 15 and 16, Chiu teaches a method for allocating a buffer (See Chiu, Abstract, buffer resource allocation), the comprising:

computing a drop probability based, at least on the measured queue size (Fig. 6, and col. 11, lines 14-30, the probability of random packet dropping increases linearly as the average queue size increases); executing a packet drop routine based upon the drop probability (col. 12, lines 56 to col. 13, line 6, command received and executed and allow the computer to sense the topology and routing parameters).

The system of chiu et al. fails to explicitly teach of estimating the number of active connection, and "adjusting queue threshold" and finding probability based in part on the adjusted threshold as opposed to queue size. However, Bergamasco in the same field of endeavor teaches of a technique for managing queues of packets where the thresholds (minimum and maximum thresholds are changed in order that the likelihood that a subsequently packet will be dropped.

BEST AVAILABLE COPY

Art Unit: 2127

He teaches estimating a number of active connection (number of packets that has been efficient for the specified number of environment (col. 4, line 55- to col. 5, line 7), and of changing the minimum threshold as packets are accepted and minimum threshold is decreased in an exponential manner for the reason to be able to drop with probability when average queue size is greater than the minimum threshold (Bergamasco, col. 4, line 55 to col. 5, line 7). Additionally, once the packet is dropped the minimum threshold is increased to make it more unlikely that the subsequent packet will be dropped. This way the resulting distribution of packets are uniform and does not rely solely upon the drop probability to distribute the packet drop (col. 5, lines 16-30). Therefore, it would have been obvious for one ordinary skill in the art at the time the invention was made to adjust threshold in order for the packets to be dropped with probability P and the distribution of packets be more uniform.

Per claims 2 and 9, the method of claim 1 wherein the step of estimating a number of active connections further comprises: filtering the estimated number of active connections (see Chiu, col. 31-54).

Per claims 6 and 13, see Chiu, col. 31-54 (random early detection scheme).

Per claims 7, and 14, the method of claim wherein the step of executing a packet drop routine further comprises: dropping packets according to an inter-drop interval count routine (see Chiu, col. 15, lines 11-28, pre specified time interval).

Allowable Subject Matter

4. Claims 3-5 and 10-12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

BEST AVAILABLE COPY

Art Unit: 2127

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Majid A. Banankhah** whose voice telephone number is (703) 308-6903. A voice mail service is also available at this number.

All response sent to U.S. Mail should be mailed to:

**Commissioner of Patent and Trademarks
Washington, D.C. 20231**

Hand-delivered responses should be brought to Crystal Park Two, 2021 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist). All hand-delivered responses will be handled and entered by the docketing personnel. Please do not hand deliver responses to the Examiner.

All Formal or Official Faxes must be signed and sent to either (703) 308-9051 or (703) 308-9052. Official faxes will be handled and entered by the docketing personnel. The date of entry will correspond to the actual FAX reception date unless that date is a Saturday, Sunday, or a Federal Holiday within the District of Columbia, in which case the official date of receipt will be the next business day. The application file will be promptly forwarded to the Examiner unless the application file must be sent to another area of the office, e.g., Finance Division for fee charging, etc.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-9600.

Majid Banankhah

6/7/04


MAJID A. BANANKHAH
PRIMARY EXAMINER

BEST AVAILABLE COPY